

[Back to search form](#)

## Search result

QUERY	
Search done on	16.3.2010 (16:2h)
Search ID	10590846
Database	Metallic compounds
Composition (Dimension: weight-%, Limit for optional components: 0)	C: 0.85-1.40* SI: 0.05-2.00* MN: 0.05-2.00* B: 0.0001-0.0050* N: 0.0060-0.0200* ZR: 0.0001-0.2000* CR: 0.05-2.00+ MO: 0.01-0.50+ CO: 0.003-2.00+ CU: 0.01-1.00+ NI: 0.01-1.00+ TI: 0.0050-0.0500+ MG: 0.0005-0.0200+ CA: 0.0005-0.0150+ AL: 0.0100-1.00+ V: 0.005-0.500+ NB: 0.002-0.050+ FE: BALANCE
Sorted according to	Date of publication descending

## Compositions

Hits 45

1 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2h)		
Field	Content	
Publication	EP2062991 A1	27.05.2009
Priority	JP2007022412	31.01.2007
Application	EP1012200707850344	
Applicant	Nippon Steel Corp.	
Inventor	Manabe, Toshiyuki; Yamasaki, Shingo; Nishida, Seiki	
Title	Plated steel wire for PWS excelling in torsion property and process for producing the same	
Info		
IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	[weight-%]: C : 0,8-1,1 * SI : 0,8-1,3 * MN : 0,3-0,8 * N : 0,001-0,006 * B : 0,0004-0,006 * AL : 0,005-0,1 + TI : 0,005-0,1 * CR : 0-0,5 * NI : 0-0,5 * CO : 0-0,5 * V : 0-0,5 * CU : 0-0,2 * MO : 0-0,2 * W : 0-0,2 * NB : 0-0,1 * ZR : 0-0,05 * FE : REST	
Keywords	(english)	(german)
	BAINITE	BAINIT
	COMPOSITE-MATERIAL	VERBUNDW
	CORROSION-RESISTING	KORROSIONSBEST
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PERLITE	PERLIT
	PRECIPITATION-HARDENING	AUSSCHIEDUNGSH
	SURFACE	OBERFLÄCHE
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG
	WIRE	DRAHT
	ZEMENTITE	ZEMENTIT

## 2 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (18:2H)

Field	Content
Publication	EP2058411 A1 13.05.2009
Priority	WOJP2006322784 09.11.2006
Application	EP0911200606823432
Applicant	Nippon Steel Corp.
Inventor	Hashimura, Masayuki; Hagiwara, Hiroshi; Kisu, Takayuki und Miterfinder
Title	Steel for high-strength spring and heat-treated steel wire for high-strength spring
Info	
IPC	C22C038/00
Composition nr.	1 Composite component -
Composition	[weight-%]: C : 0,5-0,9 * SI : 1-3 * MN : 0,1-1,5 * CR : 1-2,5 * V : 0,15-1 * AL : 0-0,005 * N : {0}-0,007 * NB : 0,001-0,01 + TI : 0,001-0,005 + W : 0,05-0,5 + MO : 0-0,05 + NI : 0,05-3 + CU : 0,05-0,5 + CO : 0,053 + B : 0,0005-0,006 * CA : 0,0002-0,01 + HF : 0,0002-0,01 + TE : 0,0002-0,01 + SB : 0,0002-0,01 + MG : 0,0001-0,0005 + ZR : 0,0001-0,0005 * FE : REST
Keywords	(english) (german)
	FATIGUE-RESISTING SCHWINGFEST
	HARD HART
	HEAT-TREATMENT WÄRMEBEHANDLUNG
	MARTENSITE MARTENSIT
	PRECIPITATION-HARDENING AUSSCHIEDUNGSH
	SPRINGS FEDERN
	TENSILE-STRENGTH ZUGFEST
	USE VERWENDUNG
	WIRE DRAHT

## 3 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (18:2H)

Field	Content
Publication	EP2003222 A1 17.12.2008
Priority	JP2006099199 31.03.2006
Application	EP2903200707741060
Applicant	Nippon Steel Corp.
Inventor	Hashimura, Masayuki; Ochi, Tatsuro; Kisu, Takayuki und Miterfinder
Title	Heat-treatment steel for high-strength spring
Info	
IPC	C22C038/00
Composition nr.	1 Composite component -
Composition	[weight-%]: C : 0,45-0,9 * SI : 1,7-3 * MN : 0,1-2 * N : 0-0,007 * FE : REST * CR : 0-2,5 * V : 0-0,1 * NB : 0-0,05 * TI : 0-0,05 * W : 0-0,5 * MO : 0-0,5 * TA : 0-0,5 * NI : 0-3 * CU : 0-0,5 * CO : 0-3 * B : 0-0,006 * TE : 0-0,01 * SB : 0-0,01 * MG : 0-0,0005 * ZR : 0-0,0005 * CA : 0-0,01 * HF : 0-0,01 * AL : 0-0,005 * S : 0-0,011 * P : 0-0,011
Keywords	(english) (german)
	HEAT-TREATMENT WÄRMEBEHANDLUNG
	SPRINGS FEDERN
	TENSILE-STRENGTH ZUGFEST
	TOUGH ZÄH

## 4 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (18:2H)

Field	Content
Publication	EP2003223 A1 17.12.2008
Priority	JP2006099198 31.03.2006
Application	EP2903200707741061

Applicant	Nippon Steel Corp.	
Inventor	Hashimura, Masayuki; Ochi, Tatsuro; Kisu, Takayuki und Miterfinder	
Title	Heat-treatment steel for high-strength spring	
Info		
IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,45-0,9 * <b>SI</b> : 1-3 * <b>MN</b> : 0,1-2 * <b>N</b> : 0-0,007 * <b>FE</b> : REST * <b>CR</b> : 0,5-2,5 + <b>HF</b> : 0,0002-0,01 + <b>NB</b> : 0,001-0,05 + <b>TI</b> : 0,001-0,05 + <b>W</b> : 0,05-0,5 + <b>TA</b> : 0,001-0,5 + <b>CU</b> : 0,05-0,5 + <b>CO</b> : 0,05-3 + <b>B</b> : 0,0005-0,006 + <b>TE</b> : 0,0002-0,01 + <b>SB</b> : 0,0002-0,01 + <b>MG</b> : 0,0001-0,0005 + <b>MO</b> : 0,05-0,5 + <b>NI</b> : 0,05-3 + <b>ZR</b> : 0,0001-0,0005 + <b>CA</b> : 0,0002-0,01 * <b>AL</b> : 0-0,005 * <b>V</b> : 0,1-1	
Keywords	(english)	(german)
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	SPRINGS	FEDERN
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

§ - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	US20050257860 A1	24.11.2005
Priority	JP2004153132	24.05.2004
Application	US2305200513443105	
Applicant	Takayama, Takemori	
Inventor	Takayama, Takemori	
Title	Rolling member and producing method thereof	
Info		
IPC	C21D001/10	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,4-1,5 * <b>CR</b> : 0,3-2 * <b>MN</b> : 0-2 * <b>SI</b> + <b>AL</b> : 0-1,5 * <b>MO</b> : 0-0,7 * <b>W</b> : 0-1,4 * <b>V</b> : 0-2 * <b>NI</b> : 0-3 * <b>B</b> : 0-0,01 * <b>TI</b> + <b>NB</b> + <b>ZR</b> : 0-1 * <b>S</b> : 0-1 * <b>P</b> + <b>O</b> + <b>N</b> : 0-0,05 * <b>FE</b> : REST	
Keywords	(english)	(german)
	BAINITE	BAINIT
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MARTENSITE	MARTENSIT
	TENSILE-STRENGTH	ZUGFEST
	TOUGH	ZÄH
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS
	ZEMENTITE	ZEMENTIT

§ - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	EP1577410 A1	21.09.2005
Priority	JP2002281161	26.09.2002
Application	EP2409200303748555	
Applicant	Kabushiki Kaisha Kobe Seiko Sho	
Inventor	Nagao, Mamoru; Kuroda, Takeshi; Mimamida, Takaaki	
Title	Hot milled wire rod excelling in wire drawability and enabling avoiding heat treatment before wire drawing	
Info		

IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,6-1 * <b>SI</b> : 0,1-1,5 * <b>MN</b> : 0,3-1 * <b>P</b> : 0-0,02 * <b>S</b> : 0-0,02 * <b>CR</b> : 0-0,3 * <b>NI</b> : 0-0,3 * <b>NB</b> + <b>V</b> + <b>TI</b> + <b>HF</b> + <b>ZR</b> : 0-0,1 * <b>N</b> : 0-0,01 * <b>AL</b> : 0-0,05 * <b>MG</b> : 0,01 * <b>MG.O</b> + <b>AL.O</b> : 0-0,0111 * <b>B</b> : 0-0,005 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PERLITE	PERLIT
	PLASTIC	PLASTISCH
	PRODUCTION	HERSTELLUNG
	TENSILE-STRENGTH	ZUGFEST
	WIRE	DRAHT

7 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	WO2005085481 A1	15.09.2005
Priority	JP2004065676	09.03.2004
Application	WO09032005JP200504582	
Applicant	Nippon Steel Corp.	
Inventor	Ueda, Masaharu; Fujita, Kazuo; Matsushita, Koichiro und Miterf.	
Title	A method for producing high-carbon steel rails excellent in wear resistance and ductility	
Info	V+ 10.Nb+ 5.N: 0,04-0,3	
IPC	C21D008/00	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,851-1,4 * <b>SI</b> : 0,05-2 * <b>MN</b> : 0,05-2 * <b>CR</b> : 0-2 * <b>MO</b> : 0-0,5 * <b>B</b> : 0-0,005 * <b>CO</b> : 0-2 * <b>CU</b> : 0-1 * <b>NI</b> : 0-1 * <b>TI</b> : 0-0,05 * <b>MG</b> : 0-0,02 * <b>CA</b> : 0-0,015 * <b>AL</b> : 0-1 * <b>ZR</b> : 0-0,2 * <b>N</b> : 0-0,02 * <b>V</b> : 0-0,5 * <b>NB</b> : 0-0,05 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PERLITE	PERLIT
	PRECIPITATION-HARDENING	AUSSCHIEDUNGSH
	TOUGH	ZÄH
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS
	WELDABLE	SCHWEISSBAR

8 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	EP1493831 A1	05.01.2005
Priority	JP2002104457	05.04.2002
Application	EP0404200303745927	
Applicant	Nippon Steel Corp.	
Inventor	Ueda, Masaharu; Matsushita, Koichiro; Fujita, Kazuo und Miterfinder	
Title	Pealite based rail excellent in wear resistance and ductility and method for production thereof	
Info		
IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,65-1,4 * <b>SI</b> : 0,05-2 * <b>MN</b> : 0,05-2 * <b>CR</b> : 0-2 * <b>MO</b> : 0-0,5 * <b>V</b> : 0-0,5 * <b>NB</b> : 0-0,05 * <b>B</b> : 0-0,005 * <b>CO</b> : 0-2 * <b>CU</b> : 0-1 * <b>NI</b> : 0-1 * <b>N</b> : 0-0,02 * <b>TI</b> : 0-0,05 * <b>MG</b> : 0-0,02 * <b>CA</b> : 0-0,015 * <b>AL</b> : 0-1 * <b>ZR</b> : 0-0,2 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>

	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PERLITE	PERLIT
	PLASTIC	PLASTISCH
	SURFACE	OBERFLÄCHE
	TOUGH	ZÄH
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS
	ZEMENTITE	ZEMENTIT

5 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	WO2003085149 A1	16.10.2003
Priority	JP2002104457	05.04.2002
Application	WO04042003JP200304364	
Applicant	Nippon Steel Corp.	
Inventor	Ueda, Masaharu; Matsushita, Koichiro; Fujita, Kazuo und Miterfinder	
Title	Pealite based rail excellent in wear resistance and ductility and method for production thereof	
Info		
IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	{weight-%}: C : 0,65-1,4 * SI : 0,05-2 * MN : 0,05-2 * CR : 0,05-2 * MO : 0-0,5 * V : 0-0,5 + NB : 0-0,05 + B : 0-0,005 + CO : 0-2 + CU : 0-1 + NI : 0-1 + N : 0-0,02 * TI : 0-0,05 + MG : 0-0,02 + CA : 0-0,015 + AL : 0-1 + ZR : 0-0,2 * FE : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PERLITE	PERLIT
	PLASTIC	PLASTISCH
	PRODUCTION	HERSTELLUNG
	WEAR/ TEAR	VERSCHLEISS

10 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	JP2001303189 AA	31.10.2001
Priority	JP2000041736	18.02.2000
Application	JP190220012001042357	
Applicant	KOBE STEEL LTD.	
Inventor	MOMOZAKI, HIROSHI; SHIKAISO, MASATO; HASEGAWA, TOYOFUMI	
Title	WIRE-SHAPED OR BAR-SHAPED STEEL WHOSE RISE IN DEFORMATION RESISTANCE IN HEAT GENERATING REGION BY WORKING AS WELL AS AT ROOM TEMPERATURE IS SUPPRESSED, AND MACHINE PARTS	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	{weight-%}: B : 0-0,0055 * ZR : 0-0,035 * N : 0,0005-0,007 * C + SI + MN : 0-2,22 * FE : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	FERRITE	FERRIT
	PLASTIC	PLASTISCH
	PRODUCTION	HERSTELLUNG
	WIRE	DRAHT

11 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	JP00204433 A	25.07.2000
Priority	JP5661	12.01.1999
Application	JP1201199911-5661	
Applicant	KOBE STEEL LTD.	
Inventor	MOMOZAKI, HIROSHI/ HASEGAWA, TOYOFUMI	
Title	STEEL EXCELLENT IN COLD WORKABILITY AND MACHINE PARTS	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	{weight-%} : <b>C</b> : 0,002-0,85 * <b>AL</b> : (0)-0,1 * <b>N</b> : (0)-0,015 * <b>FE</b> : REST * <b>CR</b> : 0-2 + <b>TI</b> : 0-0,2 + <b>B</b> : 0-0,01 + <b>NB</b> : 0-0,1 + <b>V</b> : 0-0,2 + <b>ZR</b> : 0-0,1 + <b>MO</b> : 0-0,3 * <b>SI</b> + <b>MN</b> : 0-2,22	
Keyw ords	(english)	(german)
	PLASTIC	PLASTISCH

12 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	EP1002603 A	24.05.2000
Priority	JP326987	17.11.1998
Application	EP0911199999308926	
Applicant	TEIKOKU PISTON RING CO LTD	
Inventor	OGUCHI, MASAHIRO / HANADA, FUSANOBU / YOSIZAWA, KATUYUKI UND MITERFINDER	
Title	HYDROGEN-ABSORBING ALLOY POWDER AND METHOD FOR ITS PRODUCTION	
Info	DAS LEGIERUNGSPULVER ENTHAEHT WENIGSTENS 10 GEW% VON WENIGSTENS EINEM ELEMENT	
IPC	B22F00908	
Composition nr.	1	Composite component -
Composition	{weight-%} : REM + <b>TI</b> + <b>ZR</b> + <b>V</b> + <b>MG</b> + <b>CA</b> + <b>Y</b> + <b>HF</b> + <b>NB</b> + <b>TA</b> + <b>NI</b> + <b>FE</b> + <b>MN</b> + <b>CU</b> + <b>CO</b> + <b>CR</b> + <b>AL</b> + <b>B</b> + <b>C</b> + <b>SI</b> + <b>P</b> + <b>S</b> + <b>N</b> + <b>PD</b> + <b>PT</b> : 100	
Keyw ords	(english)	(german)
	ACCUMULATOR	AKKU
	METAL-POWDER	METALLPULVER
	PRODUCTION	HERSTELLUNG
	THERMAL	THERMISCH

13 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	JP00119805 A	25.04.2000
Priority	JP227872	12.08.1998
Application	JP2409199810-269822	
Applicant	SUMITOMO METAL IND LTD.	
Inventor	OFUJI, YOSHIHIRO/ HAMADA, TAKANARI	
Title	STEEL WIRE ROD EXCELLENT IN WIRE DRAWABILITY	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	{weight-%} : <b>C</b> : 0,7-1,1 * <b>SI</b> : 0,1-1,5 * <b>MN</b> : 0,2-1 * <b>CR</b> : 0-1 * <b>AL</b> : 0-0,05 * <b>N</b> : 0-0,006 * <b>CU</b> : 0-1 * <b>NI</b> : 0-2 * <b>MO</b> : 0-0,5 * <b>W</b> : 0-0,5 * <b>CO</b> : 0-4 * <b>V</b> : 0-0,4 * <b>NB</b> : 0-0,1 * <b>TI</b> : 0-0,1 * <b>ZR</b> : 0-0,1 * <b>B</b> : 0-0,005 * <b>P</b> : 0-0,05 * <b>S</b> : 0-0,05 * <b>REM</b> : 0-0,1 * <b>CA</b> : 0-0,01 * <b>MG</b> : 0-0,01 * <b>FE</b> : REST	

Keywords	(english)	(german)
	PLASTIC	PLASTISCH
	WIRE	DRAHT

## 14 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:3H)

Field	Content	
Publication	DE69723302 T2	25.06.1998
Priority	JP354150/96	17.12.1996
Application	DE0312199769723302	
Applicant	Komatsu Ltd.	
Inventor	Takayama, Takemori; Hamasaka, Naoji	
Title	Stahlteile mit guter Widerstandsfähigkeit gegen Oberflächendruck und Verfahren zur Herstellung	
Info		
IPC	C22C038/00	
Composition nr.	1	Composite component -
Composition	{weight-%} . C : 0,1-1,2 * AL : 0,3-3 * CR : 0,5-5 * V : 0,2-2 * SI : 0-1 * MN : 0-1,5 * NI : 0-4 * MO : 0-1 * NB + TI + ZR : 0-0,1 * N + P + S : 0-0,333 * B + CA + PB : 0-1,11 * FE : REST	
Keywords	(english)	(german)
	AUSTENITE	AUSTENIT
	BEARING	LAGER
	FATIGUE-RESISTING	SCHWINGFEST
	FINE-GRAINED	FEINKÖRNIG
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MARTENSITE	MARTENSIT
	PRODUCTION	HERSTELLUNG
	SURFACE	OBERFLÄCHE
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS
	ZEMENTITE	ZEMENTIT

## 15 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	US5648044 C	15.07.1997
Priority	JP191398	02.08.1993
Application	US22051995446488	
Applicant	KAWASAKI STEEL CORPORATION	
Inventor	HOSHINO, TOSHIYUKI / IWAMOTO, TAKASHI / MATSUZAKI, AKIHIRO UND MITERFINDER	
Title	GRAPHITE STEEL FOR MACHINE STRUCTURAL USE EXHIBITING EXCELLENT FREE CUTTING CHARACTERISTIC, COLD FORGING CHARACTERISTIC AND POST-HARDENING/TEMPERING FATIGUE RESISTANCE	
Info		
IPC	C22C03802	
Composition nr.	1	Composite component -
Composition	{weight-%} : C + GRAPHIT : 0,1-1,5 * SI : 0,5-2 * MN : 0,1-2 * B : 0,0003-0,015 * AL : 0,005-0,1 * O : 0-0,003 * P : 0-0,02 * S : 0-0,035 * N : 0,0015-0,015 * FE : REST * SELTERD : 0-0,2 + ZR : 0-0,2 + TI : 0-0,05 + V : 0-0,5 + NB : 0-0,05 + NI : 0-3 + CU : 0-3 + CO : 0-3 + MO : 0-1	
Keywords	(english)	(german)
	FATIGUE-RESISTING	SCHWINGFEST
	FINE-GRAINED	FEINKÖRNIG
	HARD	HART

	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MACHINEABLE	ZERSPANBAR
	PLASTIC	PLASTISCH
	PRECIPITATION-HARDENING	AUSSCHIEDUNGSH
	TENSILE-STRENGTH	ZUGFEST

16 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	JP08100239 A	16.04.1996
Priority	JP231779	08.09.1995
Application	JP0809199507231779	
Applicant	DAIDO STEEL CO., LTD.	
Inventor	MIZUNO, HIROSHI/ ITO, KAZUO/ SUDO, KOICHI/ YAMAUCHI, NAOYUKI	
Title	ALLOY TOOL STEEL	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	[weight-%]: C : 0,35-1,5 * SI : 0,1-2 * MN : 0,1-1,5 * CR : 2-10 + MO * W : 1,5-30 + V : 0,5-5 + SELTERD : 0,001-0,6 * CO : 1-20 + NI : 0,01-2 + CU : 0,25-1 + B : 0,001-0,05 * FE : REST * S : 0-0,002 * O : 0-0,003 * N : 0-0,02 * AL : 0-0,02 * P : 0-0,02 * NB + TA + ZR + HF + TI + SC + Y : 0-0,33	
Keywords	(english)	(german)
	FATIGUE-RESISTING	SCHWINGFEST
	HIGH-TEMPER-STRENGTH	WARMFEST
	TOOL	WERKZEUG
	TOUGH	ZÄH

17 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	JP08020841 A	23.01.1996
Priority	JP153879	05.07.1994
Application	JP0507199406153879	
Applicant	KAWASAKI STEEL CORP.	
Inventor	HOSHINO, TOSHIYUKI/ IWAMOTO, TAKASHI/ YASUMOTO, SATOSHI UND MITERFINDER	
Title	ROLLING MEMBER	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	[weight-%]: C + GRAPHIT : 0,1-1,5 * SI : 0,5-2 * MN : 0,1-2,5 * N : 0,0015-0,015 * O : 0-0,002 * FE : REST * AL : 0,01-0,5 + B : 0,0003-0,015 + TI : 0,005-0,05 + SELTERD : 0,0005-0,02 + ZR : 0,005-0,2	
Keywords	(english)	(german)
	AUSTENITE	AUSTENIT
	FERRITE	FERRIT
	HARD	HART
	MACHINEABLE	ZERSPANBAR
	SURFACE	OBERFLÄCHE

18 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	JP07286234 A	31.10.1995



Priority	JP6080820	20.04.1994
Application	JP2004199406080820	
Applicant	KAWASAKI STEEL CORP.	
Inventor	YASUMOTO, SATOSHI/ HOSHINO, TOSHIYUKI/ MATSUZAKI, AKIHIRO UND MITERFINDER	
Title	BEARING MEMBER EXCELLENT IN CHARACTERISTIC OF RETARDING MICROSTRUCTURAL CHANGE DUE TO REPEATED STRESS LOAD	
Info	RESTAUSTENIT 10-35 VOL.-%	
IPC	C22C03800	
Composition nr.	2	Composite component -
Composition	{weight-%}: C : 0,5-1,5 * NB : 0,05-1 * O : 0-0,002 * SI : 0-2,5 * MN : 0-2 * MO : 0-0,5 * CU : 0-1 * NI : 0-3 * B : 0-0,1 * AL : 0-0,07 * N : 0-0,05 * ZR : 0-0,5 * W : 0-1 * TA : 0-0,5 * HF : 0-0,5 * CO : 0-1,5 * FE : REST	
Keywords	(english)	(german)
	AUSTENITE	AUSTENIT
	BEARING	LAGER
	USE	VERWENDUNG

13 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	US5458703 C	17.10.1995
Priority	JP287364	22.06.1991
Application	US24081993110925	
Applicant	NIPPON KOSHUHA STEEL CO., LTD.	
Inventor	NAKAI, NORIHIKO	
Title	TOOL STEEL PRODUCTION METHOD	
Info		
IPC	C21D00118	
Composition nr.	1	Composite component -
Composition	{weight-%}: C : 0,15-1,5 * SI : 0-2,5 * MN : 0-1 * CR : 0,4-21 * MO : 0-5 * W : 0-18 * V : 0-3 * CO : 0-21 * NI : 0-18 * NB : 0-1,25 * ZR : 0-2 * TI : 0-2,5 * TA : 0-1,25 * B : 0-0,01 * N : 0-0,5 * AL : 0-1,2 * P : 0-0,04 * S : 0-0,04 * FE : REST	
Keywords	(english)	(german)
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MAGNETIZABLE	MAGNETISIERBAR
	TENSILE-STRENGTH	ZUGFEST
	TOOL	WERKZEUG
	TOUGH	ZÄH

20 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
Field	Content	
Publication	JP07188846 A	25.07.1995
Priority	JP5337874	28.12.1993
Application	JP2812199305337874	
Applicant	KAWASAKI STEEL CORP.	
Inventor	IWAMOTO, TAKASHI/ HOSHINO, TOSHIYUKI/ MATSUZAKI, AKIHIRO UND MITERFINDER	
Title	MACHINE-STRUCTURAL CARBON STEEL EXCELLENT IN MACHINABILITY AND COLD FORGEABILITY	
Info		
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	{weight-%}: C + GRAPHIT : 0,1-1,5 * SI : 0-0,5 * MN : 0,1-2 * ZR : 0,005-0,2 * N : 0,0015-0,015 * O : 0-0,003 * NI + CO + CU : 0,1-3 * B + AL + TI + SELTERD : 0-0,33 * CR + MO + V + NB : 0-0,33 * PB + TE + P + CA + BI + SE + S : 0-0,33 * FE : REST	

Keywords	(english)	(german)
	FERRITE	FERRIT
	MACHINEABLE	ZERSPANBAR
	USE	VERWENDUNG

## 21 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (18:2H)

Field	Content	
Publication	EP637636 A	08.02.1995
Priority	JP191398	02.08.1993
Application	EP0208199494112047.9	
Applicant	KAWASAKI STEEL CORP.	
Inventor	HOSHINO, TOSHIYUKI/ IWAMOTO, TAKASHI/ MATSUZAKI, AKIHIRO/ AMANO, KENITI	
Title	METHOD OF MANUFACTURING STRUCTURAL STEEL WITH GOOD FREE-CUTTING PROPERTIES ANDGOOD COLD FORGING CHARACTERISTICS	
Info		
IPC	C22C03802	
Composition nr.	1	Composite component -
Composition	{weight-%}: C + GRAPHIT : 0,1-1,5 * SI : 0,5-2 * MN : 0,1-2 * B : 0,0003-0,015 * AL : 0,005-0,1 * O : 0-0,003 * P : 0-0,02 * S : 0-0,035 * N : 0,0015-0,015 * FE : REST * SELTERD : 0-0,2 + ZR : 0-0,2 + TI : 0-0,05 + V : 0-0,5 + NB : 0-0,05 + NI : 0-3 + CU : 0-3 + CO : 0-3 + MO : 0-1	
Keywords	(english)	(german)
	FATIGUE-RESISTING	SCHWINGFEST
	FINE-GRAINED	FEINKÖRNIG
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MACHINEABLE	ZERSPANBAR
	PLASTIC	PLASTISCH
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

## 22 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (18:2H)

Field	Content	
Publication	JP07003390 A	06.01.1995
Priority	JP594633	21.04.1993
Application	JP0312199305304086	
Applicant	KAWASAKI STEEL CORP.	
Inventor	TAKASHI, IWAMOTO/ TOSHIYUKI, HOSHINO/ AKIHIRO, MATSUZAKI UND MITERFINDER	
Title	STEEL FOR MACHINE STRUCTURE EXCELLENT IN MACHINABILITY AND COLD FORGEABILITY	
Info	TO OBTAIN THE STEEL EXCELLENT IN MACHINABILITY AND COLD FORGEABILITY BECAUSE OF THE NEEDLESSNESS OF HARDENING AS PRETREATMENT, CAPABILITY OF GRAPHITIZATION BY AN EXTREMELY SHORT TIME HEAT TREATMENT AND THE EXTREME REFINEMENT OF THE GRAPHITE GRAIN DIAMETER	
IPC	C22C03800	
Composition nr.	1	Composite component -
Composition	{weight-%}: C + GRAPHIT : 0,1-1,5 * SI : 0,5-2 * MN : 0,1-2 * ZR : 0,005-0,2 * N : 0,0015-0,015 * O : 0-0,003 * B : 0,0003-0,015 + AL : 0,01-0,5 + TI : 0,005-0,05 + SELTERD : 0,0005-0,2 + V : 0,05-0,5 + NB : 0,005-0,05 + NI : 0,1-3 + CU : 0,1-3 * FE : REST	
Keywords	(english)	(german)
	FERRITE	FERRIT
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MACHINEABLE	ZERSPANBAR
	PLASTIC	PLASTISCH

## 23 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (18:2H)

Field	Content
Publication	JP03064429 A 19.03.1991
Priority	JP198173 31.07.1989
Application	JP3107198964-198173
Applicant	DAIDO STEEL CO., LTD.
Inventor	HANIYUDA, TOMONORI
Title	TOOL STEEL EXCELLENT IN MACHINABILITY
Info	TO OBTAIN A TOOL STEEL EXCELLENT IN MACHINABILITY BY INCORPORATING SPECIFIC AMOUNTS OF B AND N TO VARIOUS CARBON TOOL STEELS AND ALSO CONTROLLING THE TOTAL CONTENT OF TI, ZR, AND REMAND O2 CONTENT <= SPECIFIC VALUES, RESPECTIVELY
IPC	C22C03800
Composition nr.	1 Composite component -
Composition	[weight-%]: C : 0,25-1,2 * SI : 0,1-1,5 * MN : 0,1-1,5 * B : 0,004-0,02 * N : 0,005-0,02 * TI * ZR * SELTERD : 0-0,01 * O : 0-0,002 * FE : REST * CR + W + MO + NI + V + CO : 0-15
Keywords	(english) (german)
	MACHINEABLE ZERSPANBAR
	TOOL WERKZEUG

24 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:24)

Field	Content
Publication	JP03056641 A 12.03.1991
Priority	JP191520 26.07.1989
Application	JP2607198964-191520
Applicant	DAIDO STEEL CO., LTD.
Inventor	HANIYUDA, TOMONORI
Title	BEARING STEEL HAVING SUPERIOR MACHINABILITY
Info	TO OBTAIN A BEARING STEEL HAVING SUPERIOR MACHINABILITY AND A LONG ROLLING SERVICE LIFE BY SPECIFYING A COMPSN. CONSISTING OF C, SI, MN, CR, B, N, O, TI, ZR, REM AND FE
IPC	C22C03800
Composition nr.	1 Composite component -
Composition	[weight-%]: C : 0,7-1,5 * SI : 0,01-1,5 * MN : 0,1-1,5 * CR : 0,6-2 * B : 0,004-0,02 * N : 0,005-0,02 * O : 0-0,002 * TI * ZR * SELTERD : 0-0,01 * FE : REST * MO : 0-0,5 + NI : 0-3
Keywords	(english) (german)
	BEARING LAGER
	MACHINEABLE ZERSPANBAR

25 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:24)

Field	Content
Publication	DE3934037 C 14.02.1991
Priority	DE3934037 12.10.1989
Application	DE12101989P3934037.6
Applicant	THYSSEN STAHL AG
Inventor	HOLLENBERG, LUTZ/ LANG, CESTMIR/ MUESCHENBORN, WOLFGANG
Title	VERFAHREN ZUR VERBESSERUNG DER KALTUMFORMBARKEIT VERGUETBARER STAEHLE
Info	
IPC	C21D00132
Composition nr.	1 Composite component -
Composition	[weight-%]: C + GRAPHIT : 0,32-1,3 * MN : 0,05-0,4 * SI : 0,41-1,5 * AL : 0,02-0,15 * CR : 0-0,05 * S : 0-0,05 * P : 0-0,03 * N : 0-0,02 * NI : 0-1 + MO : 0-0,5 + V : 0-0,1 + TI : 0-0,04 + ZR : 0-0,15 + B : 0-0,01 * FE : REST
Keywords	(english) (german)

	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PLASTIC	PLASTISCH
	WIRE	DRAHT

## 26 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (18:2H)

Field	Content	
Publication	DE3721641 C	12.01.1989
Priority	DE3721641	01.07.1987
Application	DE01071987P3721641	
Applicant	THYSSEN STAHL AG.	
Inventor	LANG, CESTMIR/ MEYER, LUTZ	
Title	VERFAHREN ZUR HERSTELLUNG VON WARMBAND	
Info		
IPC	C21D00802	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,32-0,9 * <b>MN</b> : 0,2-1,5 * <b>SI</b> : 0-2 * <b>P</b> : 0-0,05 * <b>S</b> : 0-0,05 * <b>N</b> : 0-0,02 * <b>AL</b> : 0-0,15 * <b>CR</b> : 0-3,5 * <b>NI</b> : 0-3,5 * <b>MO</b> : 0-0,5 * <b>V</b> : 0-0,2 * <b>TI</b> : 0-0,03 * <b>ZR</b> : 0-0,15 * <b>TE</b> : 0-0,005 * <b>B</b> : 0-0,01 * <b>FE</b> : REST	
Keywords	(english)	(german)
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PRODUCTION	HERSTELLUNG
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

## 27 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	WO8803573 A	19.05.1988
Priority	US927014	05.11.1986
Application	WO19101987US87/02681	
Applicant	MARTIN MARIETTA CORP.	
Inventor	MOSHIER, WILLIAM/ BRUPBACHER, JOHN/ CHRISTODOULOU, LEONTIOS UND MITERFINDER	
Title	ISOTHERMAL PROCESS FOR FORMING POROUS METAL-SECOND PHASE COMPOSITES AND POROUS PRODUCT THEREOF	
Info		
IPC	C22C00105	
Composition nr.	1	Composite component b
Composition	Composite material [volume-%]: MATRIX : 10-30 * EINLAGERUNG : 70-90 Component a [weight-%]: <b>AL</b> + <b>NI</b> + <b>TI</b> + <b>CU</b> + <b>V</b> + <b>CR</b> + <b>MN</b> + <b>CO</b> + <b>FE</b> + <b>SI</b> + <b>MO</b> + <b>BE</b> + <b>AG</b> + <b>AU</b> + <b>W</b> + <b>SB</b> + <b>BI</b> + <b>PT</b> + <b>MG</b> + <b>PB</b> + <b>ZN</b> + <b>SN</b> + <b>NB</b> + <b>TA</b> + <b>HF</b> + <b>ZR</b> : 100 Component b [weight-%]: <b>TI</b> . <b>B</b> + <b>ZR</b> . <b>B</b> + <b>ZR</b> . <b>SI</b> + <b>ZR</b> . <b>C</b> + <b>TI</b> . <b>C</b> + <b>TI</b> . <b>N</b> + <b>AL</b> + <b>TI</b> + <b>SI</b> + <b>B</b> + <b>C</b> + <b>S</b> + <b>TA</b> + <b>TH</b> + <b>Y</b> + <b>CO</b> + <b>NI</b> + <b>MO</b> + <b>W</b> + <b>V</b> + <b>ZR</b> + <b>NB</b> + <b>HF</b> + <b>MG</b> + <b>SC</b> + <b>LA</b> + <b>CR</b> + <b>O</b> + <b>N</b> + <b>LI</b> + <b>BE</b> + <b>FE</b> + <b>MN</b> + <b>ZN</b> + <b>SN</b> + <b>CU</b> + <b>AG</b> + <b>AU</b> + <b>PT</b> + <b>SE</b> TERD : 100	
Keywords	(english)	(german)
	COMPOSITE-MATERIAL	VERBUNDW
	DISPERSION-HARDENING	DISPERSIONSH
	FINE-GRAINED	FEINKÖRNIG
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	HIGH-TEMPER-STRENGTH	WARMFEST
	POROUS	PORÖS
	PRODUCTION	HERSTELLUNG

## 28 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (18:2H)

Field	Content
Publication	WO8803574 A 19.05.1988
Priority	US927031 05.11.1986
Application	WO19101987US87/02680
Applicant	MARTIN MARIETTA CORP.
Inventor	NAGLE, DENNIS/ BRUPBACHER, JOHN/ CHRISTODOULOU, LEONTIOS
Title	PROCESS FOR PRODUCING METAL-SECOND PHASE COMPOSITES AND PRODUCT
Info	INTERNATIONAL APPLICATION NUMBER: PCT/US87/ 02680
IPC	C22C03200
Composition nr.	1 Composite component b
Composition	Composite material [%]: MATRIX * EINLAGERUNG Component a [weight-%]: <b>AL + NI + TI + CU + V + CR + MN + CO + FE + SI + MO + BE + AG + AU + PT + NB + TA + HF + ZR + MG + PB + ZN + SN + W + SB + BI</b> : 100 Component b [weight-%]: <b>AL + TI + SI + B + C + S + TA + TH + Y + CO + NI + MO + W + V + ZR + NB + HF + MG + SC + LA + CR + O + N + Li + BE + FE + MN + ZN + SN + CU + AG + AU + PT + SELTERD + Ti 8 + Zr.B + Ti.C + Zr.C + Zr.Si + Ti N</b> : 100
Keywords	<b>(english)</b> <b>(german)</b>
	COMPOSITE-MATERIAL VERBUNDW
	DISPERSION-HARDENING DISPERSIONSH
	FINE-GRAINED FEINKÖRNIG
	HIGH-TEMPER-STRENGTH WARMFEST
	PRODUCTION HERSTELLUNG

## 28 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content
Publication	EP253497 A 20.01.1988
Priority	US873890 13.06.1986
Application	EP1106198787305181.7
Applicant	MARTIN MARIETTA CORP.
Inventor	NAGLE, DENNIS/ BRUPBACHER, JOHN/ CHRISTODOULOU, LEONTIOS
Title	COMPOSITES HAVING AN INTERMETALLIC CONTAINING MATRIX
Info	
IPC	C22C00110
Composition nr.	1 Composite component b
Composition	Composite material [%]: MATRIX * EINLAGERUNG Component a [weight-%]: <b>TI + TA + NB + NI + CO + CU + FE + PT + AU + AG + PB + ZN + MO + SELTERD + Y + SC + LA + HF + SN + W + Li + MG + BE + CR + V + ZR + MN + AL</b> : 100 Component b [weight-%]: <b>TI + B + SI + C + S + MO + W + V + AL + ZR + NB + CO + N + O + NI + FE + MG + BE + MN + ZN + Li + Y + SELTERD + HF + TA + CR</b> : 100
Keywords	<b>(english)</b> <b>(german)</b>
	COMPOSITE-MATERIAL VERBUNDW
	DISPERSION-HARDENING DISPERSIONSH
	PLASTIC PLASTISCH
	PRODUCTION HERSTELLUNG

## 30 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content
Publication	JP61213348 A 22.09.1986
Priority	JP53095 16.03.1985
Application	JP1603198560-53095
Applicant	DAIDO STEEL CO., LTD.
Inventor	SUDO, KOICHI

Title	ALLOY TOOL STEEL	
Info	TO OBTAIN AN ALLOY TOOL STEEL HAVING SUPERIOR STRENGTH, TOUGHNESS, HEAT CHECK RESISTANCE AND A LONG CUTTING LIFE BY SPECIFYNG A COMPOSITION CONSISTING OF C, SI, MN, CR, MO, W, VAND FE	
IPC	C22C03824	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,2-2,5 * <b>SI</b> : 0-0,1 * <b>MN</b> : 0,1-1,5 * <b>CR</b> : 2-20 * <b>MO</b> * <b>W</b> : 0,3-30 + <b>V</b> : 0,01-5 * <b>SE</b> TERD + <b>NB</b> + <b>TA</b> + <b>ZR</b> + <b>HF</b> + <b>TI</b> + <b>SC</b> + <b>Y</b> + <b>CO</b> + <b>NI</b> + <b>CU</b> + <b>B</b> + <b>MG</b> + <b>CA</b> + <b>PB</b> + <b>BI</b> + <b>TE</b> + <b>SE</b> : 0-2,22 * <b>N</b> : 0-0,02 * <b>S</b> : 0-0,005 * <b>O</b> : 0-0,003 * <b>AL</b> : 0-0,02 * <b>P</b> : 0-0,02 * <b>FE</b> : REST	
Keywords	(english)	(german)
	CUTTING-EDGE-HOLDING-PR	SCHNEIDHALTIG
	HEAT-RESISTANT	HITZEBEST
	TENSILE-STRENGTH	ZUGFEST
	TOOL	WERKZEUG
	TOUGH	ZÄH

## 31 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	US4299621 C	10.11.1981
Priority	US54528	03.07.1979
Application	US0307197954528	
Applicant	HENRIK GIFLO	
Inventor	GIFLO, HENRIK	
Title	HIGH MECHANICAL STRENGTH REINFORCEMENT STEEL	
Info		
IPC	C22C03822	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,04-1,2 * <b>MN</b> : 1-3,5 * <b>SI</b> : 0,1-2,8 * <b>MO</b> : 0,01-1 * <b>CU</b> : 0,05-3 * <b>NI</b> : 0,01-3 * <b>ZR</b> + <b>CE</b> + <b>SE</b> TERD : 0,001-0,15 * <b>NB</b> + <b>V</b> : 0,01-0,3 * <b>N</b> : 0,008-0,035 * <b>CA</b> : 0,0005-0,025 * <b>AL</b> : 0,02-0,15 * <b>B</b> + <b>BE</b> : 0,001-0,05 * <b>FE</b> : REST	
Keywords	(english)	(german)
	CORROSION-RESISTING	KORROSIONSBEST
	STRESS-CORROSION-RESIST	SPANNUNGSKORROSIONSBEST
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG
	WELDABLE	SCHWEISSBAR

## 32 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	US4279647 C	21.07.1981
Priority	US49867	18.06.1979
Application	US1806197949867	
Applicant	HENRIK GIFLO	
Inventor	GIFLO, HENRIK	
Title	CONSTRUCTION STEEL EXHIBITING HIGH FATIGUE STRENGTH	
Info		
IPC	C22C03801600	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,04-1,6 * <b>MN</b> + <b>NI</b> : 0,3-3 * <b>SI</b> : 0-1,8 * <b>CU</b> : 0,6-4 * <b>MO</b> + <b>CO</b> : 0-3 * <b>NB</b> + <b>V</b> : 0,02-0,4 * <b>B</b> : 0,001-0,006 * <b>ZR</b> + <b>BE</b> : 0,01-0,4 * <b>AL</b> : 0,01-0,2 * <b>N</b> : 0,005-0,2 * <b>CA</b> : 0,0001-0,005 * <b>CE</b> + <b>SE</b> TERD + <b>PB</b> : 0-0,25 * <b>S</b> : 0-0,1 * <b>FE</b> : REST	
Keywords	(english)	(german)
	CORROSION-RESISTING	KORROSIONSBEST

	ELASTIC	ELASTISCH
	FATIGUE-RESISTING	SCHWINGFEST
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS
	WELDABLE	SCHWEISSBAR

### 33 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	EP22134 A	14.01.1981
Priority	EP79101819	08.06.1979
Application	EP0806197979101819	
Applicant	HENRIK GIFLO	
Inventor	GIFLO, HENRIK	
Title	ACIER D'ARMATURE A HAUTE RESISTANCE MECANIQUE	
Info		
IPC	C22C03816	
Composition nr.	1	Composite component -
Composition	{weight-%} : C : (0)-1,2 * MN : (0)-3,5 * SI : (0)-2,8 * MO : (0)-1 * CU + NI : (0)-3 * ZR + CE : (0)-0,15 * NB + V : 0,01-0,3 * N : 0,006-0,035 * CA : 0,0005-0,025 * AL : 0,02-0,15 * B + BE : 0,001-0,05 * P + S : 0-0,33 * FE : REST	
Keywords	(english)	(german)
	ARMATURE	ARMATUR
	CORROSION-RESISTING	KORROSIONSBEST
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG
	WELDABLE	SCHWEISSBAR

### 34 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	EP18425 A	12.11.1980
Priority	EP79101333	02.05.1979
Application	EP0205197979101333	
Applicant	HENRIK GIFLO	
Inventor	GIFLO, HENRIK	
Title	ACIER DE CONSTRUCTION PRESENTANT UNE HAUTE RESISTANCE A LA FATIGUE, PROCEDE DE FABRICATION D'UN TEL ACIER	
Info		
IPC	C22C03816	
Composition nr.	1	Composite component -
Composition	{weight-%} : C : (0)-1,6 * MN + NI : 0,3-3 * SI : 0-1,8 * CU : 0,6-4 * MO + CO : 0-3 * NB + V : 0,02-0,4 * B : 0-0,006 * ZR + BE : 0-0,4 * AL : 0,02-0,2 * N : 0,005-0,2 * CA : 0,0001-1 * CE + PB : 0-0,25 * S : 0-0,1 * FE : REST	
Keywords	(english)	(german)
	CORROSION-RESISTING	KORROSIONSBEST
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	USE	VERWENDUNG
	WELDABLE	SCHWEISSBAR

### 35 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)

Field	Content	
Publication	JP52012611 A	31.01.1977
Priority	JP88689	18.07.1975

Application	JP1807197550-88689	
Applicant	KOBE SEIKOSHO	
Inventor	TAKAHASHI, EIJI	
Title	LARGE DIAMETER STEEL WIRE WITH HIGH STRENGTH	
Info		
IPC	C21D00952	
Composition nr.	1	Composite component -
Composition	[weight-%]: C : 0,65-0,9 * SI : 0,5-2 * MN : 0-1 * AL + NB + V + ZR + TI + B : 0-0,3 * FE : REST * N + S + P : 0-0,33	
Keywords	(english)	(german)
	PRODUCTION	HERSTELLUNG
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

36 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2019 (16:24)		
Field	Content	
Publication	DE2456530 A	19.06.1975
Priority	US424672	14.12.1973
Application	DT29111974P2456530	
Applicant	NIELS ENGEL	
Inventor	ENGEL,NIELS	
Title	UEBERHARTER MARTENSIT UND VERFAHREN ZU SEINER HERSTELLUNG	
Info		
IPC	18C00C21D00100000	
Composition nr.	1	Composite component -
Composition	[weight-%]: C + N + B + BE : 0,3-1,8 * SI + MN : 0-2,22 * P + S : 0-0,33 * MG + LA : 0-0,1 * Y + ZR + HF + TH + TA + CU + IN + SE + TE + PO : 0-0,11 * HE + NE + AR + LI + NA + K + RB + CS + CA + SR + BA + RA + AG + CD + HG + TL + PB + BI : 0-1,11 * FE : REST	
Keywords	(english)	(german)
	BEARING	LAGER
	CASE-HARDENING	EINSATZH
	CORROSION-RESISTING	KORROSIONSBEST
	CUTTING-EDGE-HOLDING-PR	SCHNEIDHALTIG
	FATIGUE-RESISTING	SCHWINGFEST
	FINE-GRAINED	FEINKÖRNIG
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	MARTENSITE	MARTENSIT
	PRODUCTION	HERSTELLUNG
	SPRINGS	FEDERN
	TOOL	WERKZEUG
	TOUGH	ZÄH
	WEAR/ TEAR	VERSCHLEISS

37 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2019 (16:24)		
Field	Content	
Publication	FR2177214 C	02.11.1973
Priority	FR7210326	24.03.1972
Application	FR240319727210326	
Applicant	UGINE ACIERS	
Inventor	GUEUSSIER, ANDRE/ TRICOT, ROLAND/ LLUANSI, MICHEL	



Title	ACIERS A TRES HAUTE RESISTANCE A PROPRIETES D'ENDURANCE AMELIOREES	
Info		
IPC	40B00C22C039054H0	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,7-1,2 * <b>SI</b> : 0,2-1,5 * <b>MN</b> : 0,2-2 * <b>CR</b> + <b>MO</b> + <b>V</b> + <b>W</b> + <b>TI</b> + <b>ZR</b> + <b>NB</b> + <b>TA</b> + <b>B</b> : 0,25-3 * <b>N</b> : 0,015-0,030 * <b>P</b> + <b>S</b> : 0-0,33 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	BEARING	LAGER
	CREEP-RESIST/STABILITY	STANDFEST
	FATIGUE-RESISTING	SCHWINGFEST
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	TENSILE-STRENGTH	ZUGFEST
	WEAR/ TEAR	VERSCHLEISS

38 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	DE2313967 A	04.10.1973
Priority	FR7210326	24.03.1972
Application	DT21031973P2313967	
Applicant	UGINE ACIERS	
Inventor	GUEUSSI ER, ANDRE/ TRICOT, ROLAND/ LLUANSI, MICHEL	
Title	VERWENDUNG EINES STAHL MIT HOHEM STICKSTOFFGEHALT	
Info		
IPC	40B00C22C039014I0	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,7-1,2 * <b>SI</b> : 0,2-1,5 * <b>MN</b> : 0,2-2 * <b>CR</b> + <b>MO</b> + <b>V</b> + <b>W</b> + <b>TI</b> + <b>ZR</b> + <b>NB</b> + <b>TA</b> + <b>B</b> : 0,25-3 * <b>N</b> : 0,015-0,03 * <b>P</b> + <b>S</b> : 0-0,33 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	BEARING	LAGER
	ELASTIC	ELASTISCH
	HARD	HART
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	TENSILE-STRENGTH	ZUGFEST

39 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:2H)		
<b>Field</b>	<b>Content</b>	
Publication	GB1306260 C	07.02.1973
Priority	SE10370	23.07.1969
Application	GB1607197034580/70	
Applicant	SANDVIK AB.	
Inventor		
Title	IMPROVEMENTS IN OR RELATING TO ALLOY STEEL RAZOR BLADES	
Info	MO+ W+ NB+ TA+ TI+ V: 0-2* NI+ CO+ CU+ ZR+ B: 0-1	
IPC	40B00C22C03801800	
Composition nr.	1	Composite component -
Composition	[weight-%]: <b>C</b> : 0,8-1,4 * <b>CR</b> : 0,5-2 * <b>SI</b> : 0,7-2 * <b>MN</b> : 0-1 * <b>MO</b> : 0-1 * <b>W</b> : 0-1 * <b>NB</b> : 0-1 * <b>TA</b> : 0-1 * <b>TI</b> : 0-1 * <b>V</b> : 0-1 * <b>NI</b> : 0-1 * <b>CO</b> : 0-1 * <b>CU</b> : 0-1 * <b>ZR</b> : 0-1 * <b>B</b> : 0-1 * <b>P</b> + <b>S</b> + <b>N</b> : 0-0,33 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>

	CUTTING-EDGE-HOLDING-PR	SCHNEIDHALTIG
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	SURFACE	OBERFLÄCHE
	TOOL	WERKZEUG

## 40 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:24)

Field	Content	
Publication	DE2039438 A	17.02.1972
Priority	DE2039438	07.08.1970
Application	DT07081970P2039438	
Applicant	TOHOKU SPECIAL STEEL WORKS LTD.	
Inventor	MATSUMOTO,JIRO/ OHARA,SHOSHIRO/TERASHIMA,TAKAHIKO	
Title	HOCHLEISTUNGSWERKZEUGSTAHL	
Info		
IPC	40B00C22C03905200	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>C</b> : 0,4-1,5 * <b>SI</b> : 1-3 * <b>MN</b> : 0,1-1 * <b>V</b> : 0,5-5 * <b>CR</b> : 1-4,5 * <b>MO</b> : 0,5-2,5 * <b>FE</b> : REST * <b>B</b> : 0-0,01 * <b>TI</b> + <b>ZR</b> + <b>NB</b> + <b>TA</b> + <b>CA</b> : 0-2 * <b>P</b> : 0-0,024 * <b>S</b> + <b>SE</b> : 0-0,03 * <b>N</b> : 0-0,1	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	HARD	HART
	PLASTIC	PLASTISCH
	TENSILE-STRENGTH	ZUGFEST
	TOOL	WERKZEUG
	WEAR/ TEAR	VERSCHLEISS

## 41 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:24)

Field	Content	
Publication	DE2112944 A	07.10.1971
Priority	GB13096	18.03.1970
Application	DT17031971P2112944	
Applicant	THE BIRMINGHAM SMALL ARMS CO.LTD	
Inventor	RIDOUT,PHILIP/MATTY,MICHAEL	
Title	PULVERMISCHUNG ZUR HERSTELLUNG VON STAHLGEGENSTAENDEN NACH BEKANNTEN PULVERMETALLURGISCHEN VERFAHREN	
Info	AL* B* CR* CU* MG* NB* TA* P* SI* TI* W* V* ZR* SE* PB< 5	
IPC	40B00C22C03903600	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>NI</b> : 1-4,9 * <b>MN</b> : 0,1-2 * <b>MO</b> : 0,1-5 * <b>C</b> : 0,1-1 * <b>AL</b> : 0-1 + <b>B</b> : 0-0,3 + <b>CR</b> : 0-5 + <b>CU</b> : 0-5 + <b>MG</b> : 0-1 + <b>NB</b> + <b>TA</b> : 0-4 + <b>P</b> : 0-0,3 + <b>SI</b> : 0-1 + <b>TI</b> : 0-2 + <b>W</b> : 0-4 + <b>V</b> : 0-0,3 + <b>ZR</b> : 0-0,6 + <b>SE</b> : 0-0,6 + <b>PB</b> : 0-0,5 * <b>N</b> + <b>S</b> : 0-0,33 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	PLASTIC	PLASTISCH
	SINTERED-PRODUCT	SINTERW
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

## 42 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 16.3.2010 (16:24)

Field	Content	
Publication	DE1032296 B	19.06.1958
Priority	GB	22.08.1952
Application	DT21081953H17483	

Applicant	HADFIELDS LTD9	
Inventor	RAIT,JOHN/MIDDLEHAM,THOMAS/WARD,JOHN	
Title	VERWENDUNG EINER AUSTENITISCHEN STAHLLEGIERUNG ALS WERKSTOFFFUEER NICHTMAGNETISCHE GEGENSTAENDE HOHER FESTIGKEIT UND STRECKGRENZE	
Info	MO+ W+ TI+ NB+ TA+ AL+ ZR+ BE< 10* MN+ CR+ NI< 28* SI+ V> 1,5	
IPC	18D00C22C00202000	
Composition nr.	1	Composite component -
Composition	{weight-%} : <b>C</b> : 0,3-0,9 * <b>SI</b> : 0,2-2 * <b>MN</b> : 0,5-20 * <b>CR</b> : 0-8 * <b>NI</b> : 0-12 * <b>V</b> : 0,5-4 * <b>P</b> + <b>S</b> : 0-2,22 * <b>MO</b> : 0-5 * <b>W</b> : 0-5 * <b>TI</b> : 0-5 * <b>NB</b> + <b>TA</b> : 0-5 * <b>AL</b> : 0-2 * <b>ZR</b> : 0-2 * <b>BE</b> : 0-2 * <b>CO</b> : 0-5 * <b>CU</b> : 0-6 * <b>N</b> : 0-0,25 * <b>B</b> : 0-0,5 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	CORROSION-RESISTING	KORROSIONSBEST
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	HIGH-TEMPER-STRENGTH	WARMFEST
	NONMAGNETIC	UNMAGNETISCH
	PLASTIC	PLASTISCH
	PRECIPITATION-HARDENING	AUSSCHIEDUNGSH
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG
	WEAR/ TEAR	VERSCHLEISS

43 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (16:3H)

Field	Content	
Publication	AT193914 C	10.12.1957
Priority		
Application	OE02061954	
Applicant	OESTERREICHISCH-ALPINE MONTAGEGESELLSCHAFT	
Inventor	MITSCHKE,ROLAND/LEGAT,ALOIS	
Title	STAHL FUER BEWEHRUNGSZWECKE IM BAUWESEN	
Info		
IPC	18B00C21C02400100	
Composition nr.	1	Composite component -
Composition	{weight-%} : <b>C</b> : 0,1-1,2 * <b>SI</b> + <b>MN</b> : 0,1-2 * <b>CR</b> : 0-1,5 * <b>MO</b> : 0-1 * <b>AL</b> : 0-0,5 * <b>TI</b> : 0-0,5 * <b>B</b> : 0-0,1 * <b>N</b> : 0-0,1 * <b>TA</b> : 0-0,2 * <b>ZR</b> : 0-0,3 * <b>NB</b> : 0-0,2 * <b>P</b> : 0-0,2 * <b>V</b> : 0-0,5 * <b>CU</b> : 0-1,5 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	CREEP-RESIST/STABILITY	STANDFEST
	TENSILE-STRENGTH	ZUGFEST
	USE	VERWENDUNG

44 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (16:2H)

Field	Content	
Publication	FR1087022 C	18.02.1955
Priority	FR	08.09.1953
Application	FR08091953	
Applicant	THE ARMCO INTERNATIONAL CORP.	
Inventor		
Title	PROCEDE DE FABRICATION D'ALLIAGES ET PRODUITS EN RESULTANT	
Info		
IPC	40B00C22C039020H0	
Composition nr.	1	Composite component -

Composition	{weight-%}: <b>C</b> : 0-1,5 * <b>B</b> : 0,00005-0,0015 * <b>CR</b> : (0)-35 * <b>NI</b> : 0-50 * <b>MN</b> : 0-20 * <b>SI</b> : 0-5 * <b>CO</b> : 0-50 * <b>W</b> + <b>MO</b> : 0-10 * <b>CU</b> : 0-10 * <b>AL</b> : 0-5 * <b>NB</b> + <b>TA</b> + <b>V</b> + <b>ZR</b> + <b>TI</b> : 0-5 * <b>N</b> : 0-0,5 * <b>P</b> + <b>S</b> : 0-0,5 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	CORROSION-RESISTING	KORROSIONSBEST
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PLASTIC	PLASTISCH
	PRODUCTION	HERSTELLUNG
	SURFACE	OBERFLÄCHE
	TURBINE	TURBINE
	USE	VERWENDUNG

48 - DEUTSCHES PATENT- UND MARKENAMT DPMA - 18.3.2010 (16:38)		
<b>Field</b>	<b>Content</b>	
Publication	FR1047436 C	14.12.1953
Priority	FR	02.01.1952
Application	FR02011952	
Applicant	REGIE NATIONALE DES USINES RENAULT	
Inventor		
Title	PROCEDE D'ELABORATION D'ACIERS AU CUIVRE-BORE	
Info		
IPC	40B00C22C03500000	
Composition nr.	1	Composite component -
Composition	{weight-%}: <b>B</b> : 0,0002-0,0060 * <b>CU</b> : 0,15-2 * <b>TI</b> : 0-0,07 * <b>AL</b> : 0-0,02 * <b>CA</b> : 0-0,02 * <b>C</b> + <b>MN</b> + <b>SI</b> : 0-2,22 * <b>P</b> + <b>S</b> + <b>N</b> : 0-0,33 * <b>NI</b> : 0-1,6 * <b>CR</b> : 0-1 * <b>ZR</b> + <b>V</b> + <b>MG</b> : 0-0,33 * <b>FE</b> : REST	
<b>Keywords</b>	<b>(english)</b>	<b>(german)</b>
	CASE-HARDENING	EINSATZH
	HEAT-TREATMENT	WÄRMEBEHANDLUNG
	PRODUCTION	HERSTELLUNG
	SURFACE	OBERFLÄCHE
	TOUGH	ZÄH